AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-8. (Cancelled).

9. (Original) A method of solubilizing a BTCS having the structure

YZ-TCRO-ZY

where:

Y = a cation

Z = a polar group which is associated with the cation, and

TCRO = trans carotenoid skeleton

comprising the steps of:

a) preparing a dilute solution of sodium carbonate or sodium bicarbonate,

b) adding said dilute solution to deionized water to raise the pH to 7 or above,

c) adding a BTCS to the solution of step b).

10. (Original) A method of solubilizing a BTCS having the structure

YZ-TCRO-ZY

where:

Y = a cation

Z = a polar group which is associated with the cation, and

TCRO = trans carotenoid skeleton

comprising the steps of:

a) adding a BTCS to a saline solution,

b) removing undissolved material.

11. (Original) A method of solubilizing a BTCS having the structure

YZ-TCRO-ZY

where:

Y = a cation

Z = a polar group which is associated with the cation, and,

TCRO = trans carotenoid skeleton.

comprising the steps of:

a) adding a base to water to make a basic solution,

b) adding a BTCS to said solution.

12. (Original) A method of solubilizing a BTCS having the structure

YZ-TCRO-ZY

where:

Y = a cation

Z = a polar group which is associated with the cation, and

TCRO = trans carotenoid skeleton

comprising the steps of:

a) preparing deionized water,

b) adding a BTCS to the solution of step a).

13. (Original) A method as in claim 9, 10, 11 or 12 wherein said compound is trans sodium crocetinate.

14. (Original) A method of increasing the diffusivity of oxygen in a mammal comprising administering to a mammal a therapeutically effective amount of a compound having the formula:

YZ-TCRO-ZY

where:

Y = a cation

Z = a polar group which is associated with the cation, and

TCRO = trans carotenoid skeleton,

wherein said compound is not TSC.

15. (Original) A method as in claim 14 wherein said administration is by inhalation.

16. (Original) A method of treating respiratory disease comprising administering to a mammal in need of treatment a therapeutically effective amount of a compound having the formula:

YZ-TCRO-ZY

where:

Y = a cation

Z = a polar group which is associated with the cation, and

TCRO = trans carotenoid skeleton,

wherein said compound is not TSC.

17. (Original) A method of treating emphysema comprising administering to a mammal in need of treatment a therapeutically effective amount of a compound having the formula

YZ-TCRO-ZY

where:

Y = a cation

Z = a polar group which is associated with the cation, and

TCRO = trans carotenoid skeleton,

wherein said compound is not TSC.

18. (Original) A method of treating hemorrhagic shock comprising administering to a mammal in need of treatment a therapeutically effective amount of a compound having the formula

YZ-TCRO-ZY

where:

Y = a cation

Z = a polar group which is associated with the cation, and

TCRO = trans carotenoid skeleton,

wherein said compound is not TSC.

19. (Original) A method of treating cardiovascular disease comprising administering to a mammal in need of treatment a therapeutically effective amount of a compound having the formula

YZ-TCRO-ZY

where:

Y = a cation

Z = a polar group which is associated with the cation, and

TCRO = trans carotenoid skeleton,

wherein said compound is not TSC.

20. (Original) A method of treating atherosclerosis comprising administering to a mammal in need of treatment a therapeutically effective amount of a compound having the formula

YZ-TCRO-ZY

where:

Y = a cation

Z = a polar group which is associated with the cation, and

TCRO = trans carotenoid skeleton,

wherein said compound is not TSC.

21. (Original) A method of treating asthma comprising administering to a mammal in need of treatment a therapeutically effective amount of a compound having the formula

YZ-TCRO-ZY

where:

Y = a cation

Z = a polar group which is associated with the cation, and

TCRO = trans carotenoid skeleton,

wherein said compound is not TSC.

22. (Original) A method of treating spinal cord injuries comprising administering to a mammal in need of treatment a therapeutically effective amount of a compound having the formula

YZ-TCRO-ZY

where:

Y = a cation

Z = a polar group which is associated with the cation, and

TCRO = trans carotenoid skeleton,

wherein said compound is not TSC.

23. (Original) A method of treating cerebral edema comprising administering to a mammal in need of treatment a therapeutically effective amount of a compound having the formula

YZ-TCRO-ZY

where:

Y = a cation

Z = a polar group which is associated with the cation, and

TCRO = trans carotenoid skeleton,

wherein said compound is not TSC.

24. (Original) A method of treating papillomas comprising administering to a mammal in need of treatment a therapeutically effective amount of a compound having the formula

YZ-TCRO-ZY

where:

Y = a cation

Z = a polar group which is associated with the cation, and

TCRO = trans carotenoid skeleton,

wherein said compound is not TSC.

25. (Original) A method of treating hypoxia comprising administering to a mammal in need of treatment a therapeutically effective amount of a compound having the formula

YZ-TCRO-ZY

where:

Y = a cation

Z = a polar group which is associated with the cation, and

TCRO = trans carotenoid skeleton,

wherein said compound is not TSC.

26-35. (Cancelled).

36. (Original) A method of increasing the diffusivity of oxygen in a mammal comprising administering to a mammal a therapeutically effective amount of BTCS wherein absorbency of the highest peak which occurs in the visible wave length range divided by the absorbency of the peak which occurs in the UV wave length range is greater than 7.5.

37. (Original) A method of treating emphysema comprising administering to a mammal in need of treatment a therapeutically effective amount of BTCS wherein absorbency of the highest peak which occurs in the visible wave length range divided by the absorbency of the peak which occurs in the UV wave length range is greater than 7.5.

38. (Original) A method of treating hemorrhagic shock comprising administering to a mammal in need of treatment a therapeutically effective amount of BTCS wherein absorbency of the highest peak which occurs in the visible wave length range divided by the absorbency of the peak which occurs in the UV wave length range is greater than 7.5.

39. (Original) A method as in claim 36, 37 or 38 wherein the BTCS is TSC.

40. (Original) A method of increasing the diffusivity of oxygen in a mammal comprising administering to a mammal by inhalation a therapeutically effective amount of TSC.

41-48. (Cancelled).

49. (Original) A method of treating ischemia comprising administering to a mammal in need of treatment a therapeutically effective amount of a compound having the formula:

YZ-TCRO-ZY

where:

Y = a cation

Z = a polar group which is associated with the cation, and

TCRO = trans carotenoid skeleton,

wherein said compound is not TSC.

50. (Original) A method of treating traumatic brain injury comprising administering to a mammal in need of treatment a therapeutically effective amount of a compound having the formula

YZ-TCRO-ZY

where:

Y = a cation

Z = a polar group which is associated with the cation, and

TCRO = trans carotenoid skeleton,

wherein said compound is not TSC.

51. (Original) A method of enhancing performance of a mammal comprising administering to said mammal a therapeutically effective amount of a compound having the formula:

YZ-TCRO-ZY

where:

Y = a cation

Z = a polar group which is associated with the cation, and

TCRO = trans carotenoid skeleton.

52. (Original) A method of treating complications of diabetes comprising administering to a mammal in need of treatment a therapeutically effective amount of a compound having the formula

YZ-TCRO-ZY

where:

Y = a cation

Z = a polar group which is associated with the cation, and

TCRO = trans carotenoid skeleton.

53. (Original) A method of treating Alzheimer's disease comprising administering to a mammal in need of treatment a therapeutically effective amount of a compound having the formula

YZ-TCRO-ZY

where:

Y = a cation

Z = a polar group which is associated with the cation, and

TCRO = trans carotenoid skeleton.

54. (Original) A method of treating ischemia in a mammal comprising administering to a mammal a therapeutically effective amount of BTCS wherein absorbency of the highest peak which occurs in the visible wave length range divided by the absorbency of the peak which occurs in the UV wave length range is greater than 7.5.

55. (Original) A method of treating traumatic brain injury comprising administering to a mammal in need of treatment a therapeutically effective amount of BTCS wherein absorbency of the highest peak which occurs in the visible wave length range divided by the absorbency of the peak which occurs in the UV wave length range is greater than 7.5.

56. (Original) A method of enhancing performance comprising administering to a mammal an effective amount of BTCS wherein absorbency of the highest peak which occurs in the visible wave length range divided by the absorbency of the peak which occurs in the UV wave length range is greater than 7.5.

57. (Original) A method of treating diabetes comprising administering to a mammal in need of treatment a therapeutically effective amount of BTCS wherein absorbency of the

highest peak which occurs in the visible wave length range divided by the absorbency of the peak which occurs in the UV wave length range is greater than 7.5.

58. (Original) A method of treating Alzheimer's disease comprising administering to a mammal in need of treatment a therapeutically effective amount of BTCS wherein absorbency of the highest peak which occurs in the visible wave length range divided by the absorbency of the peak which occurs in the UV wave length range is greater than 7.5.

59. (Original) A method as in claim 54, 55, 56, 57 or 58 wherein the BTCS is TSC.

60. (Original) A method of treating, preventing or reducing the amount of ischemia resulting from surgery of a mammal comprising administering to a mammal before, during or after surgery a therapeutically effective amount of BTCS.